UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/684,064	10/06/2000	Gordon Ian Rowlandson	39199-9511-00	2853

7590 11/16/2005	EXAMINER
Joseph D Kuborn	BUI, KIM T
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ART UNIT	PAPER NUMBER
3626	

Suite 1100
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DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _09/16/05_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-4, 6-29 and 31_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-4, 6-29 and 31_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the

fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection.

Since this application is eligible for continued examination under 37 CFR 1.114,

and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the

previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on 09/16/2005 has been entered.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described
> as set forth in section 102 of this title, if the differences between the subject matter sought to
> be patented and the prior art are such that the subject matter as a whole would have been
> obvious at the time the invention was made to a person having ordinary skill in the art to which
> said subject matter pertains. Patentability shall not be negatived by the manner in which the
> invention was made.

3.   Claims 1-4,6,8-12,14-17,19-21, 23-29,31 are rejected under 35 U.S.C.

103(a) as being unpatentable over Mardirossian (6011991) in view of Selvester

et al. (6230048) and Castelaz et al. (5003490).

(A)   As per claim 1, Mardiorossian discloses real time support system and

method for monitoring physiological data, comprising the steps for:

a.   establishing a library of interpreted physiological data records (i.e., storing

in memory 57 a plurality of files or patterns of measured brain activity or

responses of particular individuals) (Mardirossian, col. 2, lines 26-31).

b.   gathering sensed physiological signal (Mardirossian, col. 3, lines 41-43).,

c.   processing including transforming the sensed physiological signal

according to predefined criteria (Mardirossian, col . 3, lines 46-47, col. 5, lines

16-18, col. 6, lines 12-14, col. 6, line 62 to col. 7, line 2). The Examiner interprets

the operation for processing of sensed physiological information including

normalizing, transforming, or neural network analyzing disclosed by Mardirossian

in the cited passages as interpreting the physiological data based on a

predetermined set of criteria;

d.   correlating (i.e. comparing) the transformed pattern or waves in one

embodiment (i.e., interpretation) with the physiological data records in a library of

physiological data records (Mardirossian, col. 3, lines 46-52).,

        Mardirossian fails to explicitly recite the step for displaying the

interpretation and the correlated physiological records on a display. This,

however, is disclosed by Selvester et al. Selvester et al. teaches a pictorial

display electrocardiographic interpretation system wherein an ultimate

interpretation (i.e., a interpretation resulted by correlating of heart signal and an

input ECG related data) can be presented in static or motion display (Selvester et

al. Figs 2, 3, col. 3, lines 55-58, col. 9, line 52-56).

        It would have been obvious to one having ordinary skill in the art at the

time of the invention to include pictorial display system of Selvester et al into

Mardirossian with the motivation of facilitating the operation of the system by

providing highly information visual output of the an ultimate interpretation.

Selvester et al. col. 3, lines 60-65.

As per the features of the interpreting step, such as measuring, analyzing, extracting one or more patterns from the physiological data and comparing the extracted patterns from the physiological data to a set of known patterns. Mardirossian's invention is not directed to the specific processing/interpreting aspect, but is more directed to the correlating of the interpretation with the library of physiological data records. As such, Mardirossian does not describe the operation of the neural network (i.e. an interpreting module) in details. Mardirossian, however; addressed the processing of physiological signal on col. 5, lines 10-25, col. 6, lines 12-16, and col. 6, line 62 to col. 7, line 2. It is noted that the classification operation performed by the neural network disclosed by Mardirossian includes the extraction of selected features and comparing the same to predetermined categories. In addition, these practices for interpreting physiological signals are common in the prior art of physiological signal processing, as evidenced by Castelaz et al.

Castelaz et al. discloses a method for processing/interpreting physiological signal including the steps for:

a.   measuring the physiological data. Castelas et al., col. 4, lines 55-64, Figs 1,2.

b.   analyzing the characteristics (i.e. pulse width, amplitude, rise and fall time, frequency etc. ...) associated with the physiological signal. Castelas, col. 4, lines 55-65, Figs. 1-2.

c.   extracting one or more patterns (i.e. features) from the physiological signal and comparing the extracted patterns with the stored patterns for

classification purposes when a match is found. Castelaz, col. 4, lines 55-68, Figs. 1-2.

It would have been obvious to one having ordinary skill in the ad at the time of the invention to include these common steps disclosed by Castelas et al. to process the physiological signal with the motivation of improving the performance of the system by properly identifying the input physiological signal. Castelaz et al, col.4, lines 66-68.

(B)   As per claim 2, Maridossian and Selvester teach the communication link to an expert location in col. 3, lines 47-49 of Maridossian, and col.10, lines 47-54 of Selvester et al.

(C)   As per claims 3,4, Selvester et al. teaches the text and voice messages in col. 24, lines 37-44.

(D)   As per claims 6, 24, checking the integrity of physiological data (i.e. filtering, pre-processing), extracting patterns and comparing are common practice for processing physiological signal. This is disclosed by Mardirosian on col. 6, lines 12-14, col. 6, line 62 to col. 7, Castelaz, col. 4, lines 55-68, Figs. 1-2. . Sevester also teaches these practices on col. 8, lines 55-65, col. 3, lines 52-58.

(E)   As per claims 8, 9, text message (i.e. text report) and physiological data are displayed in col. 24, lines 36-41 of Selvester et al.

(F)   As per claim 10, Mardirossian discloses real time support system for monitoring physiological data comprising:

a.   a library of interpreted physiological data records (i.e., memory 57 for

storing a plurality of files or patterns of measured brain activity or responses of

particular individuals). Mardirossian, col. 2, lines 26-31

b.   a physiological data acquisition device for gathering sensed physiological

signal criteria and coupled to the library of physiological data records

(Mardirossian, col . 3, lines 41-47, col. 5, lines 16-18, col. 6, lines 12-14, col. 6,

line 62 to col. 7, line 2). The Examiner interprets the operation for processing of

sensed physiological information including normalizing, transforming, or neural

network analyzing disclosed by Mardirossian in the cited passages as an

interpreting module to generate an interpretation of the physiological signal.

Mariddosian also teaches a correlation module (i.e. comparing device) for

comparing the interpretation with the physiological data records to determine a

set of correlated data records (i.e., match or close match) (Mardirossian, col. 3,

lines 46-52).

Mardirossian fails to explicitly recite the output device. This, however, is

disclosed by Selvester et al. See Selvester et al. Figs 2, 3, col. 3, lines 55-58,

col. 9, line 52-56. It would have been obvious to one having ordinary skill in the

ad at the time of the invention to include output device disclosed by Selvester et

al into Mardirosbian with the motivation of facilitating the operation of the system

by providing a highly informative visual output. Selvester et al. col. 3, lines 60-65.

As per the features of the interpreting module, such as measuring,

analyzing, and extracting one or more patterns from the physiological data..

Mardirossian's invention is not directed to the specific processing/interpreting

aspect, but is more directed to the correlating of the interpretation with the library

of physiological data records. As such, Mardirossian does not describe the

operation of the neural network (i.e. an interpreting module) in details.

Mardirossian, however; addressed the processing of physiological signal on col.

5, lines 10-25, col. 6, lines 12-16, and col. 6, line 62 to col. 7, line 2. It is noted

that the classification operation performed by the neural network disclosed by

Mardirossian includes the extraction of selected features and comparing the

same to predetermined categories. In addition, these practices for interpreting

physiological signals are common in the prior art of physiological signal

processing, as evidenced by Castelaz et al.

Castelaz et al. discloses a method for processing/interpreting

physiological signal including the steps for:

a.   measuring the physiological data. Castelaz et al., col. 4, lines 55-64, Figs

1,2.

b.   analyzing the characteristics (i.e. pulse width, amplitude, rise and fall time,

frequency etc. ...) associated with the physiological signal . Castelaz, col. 4,

lines 55-65, Figs. 1-2.

c.   extracting one or more patterns (i.e. features) from the physiological

signal. Castelaz, col. 4, lines 55-68, Figs. 1-2.

It would have been obvious to one having ordinary skill in the ad at the

time of the invention to include these common steps disclosed by Castelaz et al.

to process the physiological signal with the motivation of improving the

performance of the system by properly identifying the input physiological signal.

Castelaz et al, col. 4, lines 66-68.

(G)   As per claim 11, display device is disclosed in Fig. 3 of Selvester et al.

(H)   As per claims 12, 15, expert location for receiving transmitted

physiological data and communication module are disclosed in col. 3, lines 47-49

of Mardirossian, and col .10, lines 47-54, col. 15, lines 1-9 of Selvester et al.

(I)   As per claims 16,17, 23, Selvester et al teaches the text and voice

messages in col. 24, lines 37-44.

(J)   As per claim 14, Selvester et al teaches an information filter in col. 1, lines

58-61.

(K)   As per claims 19, 31, libraries of supplemental materials (i.e. word,

phrase, thought, subject specific and non-subject specific etc.) are disclosed in

col. 2, lines 26- 31 of Mardirossian, and col. 2, lines 45-61 of Selvester et al.

(L)   As per claims 20, 21, Mardirossian teaches that physiological data can be

heart signal (Mardirossian, col. 5, line 24). Selvester teaches ECG signal in col.

3, lines 55-58.

(M)   As per claim 25, the claim repeats the limitations in claim 1, and is

rejected for the same reasons given above in the rejection of claim 1.

As per the "checking the integrity of the acquired data" recitation. It is

noted that the extracting and comparing steps disclosed by Catelaz are

performed to recognize the correct patterns of the acquired data in order to

properly assign the data into predetermined categories, The examiner interprets

this as a form of checking the integrity of the acquired data. Castelaz, col. 4, lines 64-68.

(N)   As per claim 26, Mardirossian teaches the step for establishing a library of interpreted physiological data records (i.e., storing in memory 57 a plurality of files or patterns of measured brain activity or responses of acicular individuals) in col. 2, lines 26-31.

(O)   As per claims 27-29, expert location for receiving transmitted physiological data and communication module are disclosed in col. 3, lines 47-49 of Maridossian, and col.10, lines 47-54, col. 15, lines 1-9, Fig. 3 of Selvester et al. Selvester et al. also teaches the text and voice messages in col. 24, lines 37-44. The communication module disclosed by Selvester et al. includes the Internet (col. 10, line 53 of Selvester et al). This meets the "instant" feature in claims 28, 29.

4.   Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mardirossian in view of Selvester et al. and Castelaz et al. (5003490) as applied to claim 1 above, and further in view of Cairnes (6139494)

(A)   As per claim 7. Mardirossian fails to recite a library of education material. However, this is well known as evidenced by Cairnes. Cairnes teaches a physiological monitoring device including a library of educational material. See Cairnes, col. 12, lines 18-26.

It would have been obvious to one having ordinary skill in the ad at the time of the invention to include and present selected portion of the educational lbrary disclosed by Cairnes with the motivation of improving the patient's

understanding on therapies and health care issues and therefor facilitating the

wellness and preventive care system which serves to prolong life, reduce

sickness, and lower the cost for operating hospital and clinic. See col. 12, lines

35-40 of Cairnes.

5.   Claim 18 is rejected under 35USC 103 as being unpatentable over

Mardirossian in view of Selvester et al. and Castelaz as applied to claim 10

above, and further in view of Bardy (6203495).

(A)   As per claim 18. Mardirossian fails to recite a library located on the

server. This, however, it is well known as evidenced by Bardy. Bardy teaches a

physiological monitoring device wherein database of physiological data is located

on a server. Bardy, col. 4, lines 14-16.

It would have been obvious to one having ordinary skill in the art at the

time of the invention to include a server with the motivation of increasing the

capacity of the storage device to network level, thereby expanding the application

to world wide system. See Bardy, col. 7, lines 1-5.

6.   Claims 13, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Mardirossian in view of Selvester et al. and Castelaz as applied to claims

10, 12 above, and further in view of Albert et al. (6264614).

(A)   As per claim 13, Mardirossian and Selvester et al. fail to recite a portal.

This, however, this is well known as as evidenced by Albert et al.. Albert et al.

discloses a head monitoring system wherein the Internet addressing capability is

included. Web site and the Internet connection allow browsing and downloading

of information and acquisition application program. See Albert et al. Fig.3, col. 6, lines 45-50.

It would have been obvious to one having ordinary skill in the art at the time of the invention to include web site or porter with the motivation of facilitating the operation of the system by providing the ability to access the Internet to browse information and download application programs. See Albert, col. 10, lines 45-65.

(B)   As per claim 22, Mardirossian fails to recite a browser. However, it is well known to include a browser in physiological monitoring system as evidenced by Albert et al.. Albert et al. teaches a physiological monitoring device that includes web browser. Albert et al., Fig. 8, col. 10, lines 37-40.

It would have been obvious to one having ordinary skill in the art at the time of the invention to include a browser with the motivation of facilitating the operation of the system by providing the ability to navigate and access the Internet to browse information and to download application programs. See Albert, col. 10, lines 45-65.

Response to Arguments

7.   Applicant's arguments filed 09/16/2005 have been fully considered but they are not persuasive. Applicant's arguments will be addressed herein below.

(A)   On pages 8-9 of the Remarks, Applicant repeats the argument that Mardirossian, Castelaz and Selvester do not teach utilizing an interpretation module to generate an interpretation. Examiner disagrees, it is respectfully submitted that the interpretation module disclosed by the applicant performs the

measuring, analyzing, extracting patterns and comparing the extracted patterns

from the physiological data to the set of known patterns is well known in the art

as evidenced by Mardirossian and Castelaz. These common practices, that are,

measuring, analyzing, extracting, comparing the extracted patterns with set of

known patterns are perform to interpret physiological signal can be performed

using such neural computing system network disclosed in both by Mardirossian

and Castelaz as discussed in details in the above rejections. It is the Examiner's

position that Mardirossian and Castelaz teach the interpretation module in the

form of a neural computing system/neural network.

(B)   On page 9 of the Remarks, Applicant argues that Selvester does not teach

the interpretation module to generate an interpretation of the physiological data.

Selvester is combined to show it is well known to display the interpretation and

the correlated physiological records on a display. In response to applicant's

arguments against the references individually, one cannot show nonobviousness

by attacking references individually where the rejections are based on

combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871

(CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir.

1986).

Also on page 9 of the Remarks, Applicant argues that none of the

references teach interpreting the physiological data and generate a separate

interpretation" and "the present invention does not merely create a waveform ,

but rather extracts features of the waveform to be compared with features of

previous interpreted physiological data and used to check the interpretation

made by the interpretation module (present invention specification, page 5, lines 19-20).". In response, it is noted that the features argued by the applicant, are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

(C)   On pages 10, 11 of the Remarks, Applicants cited the steps and means of the independent claims 1, 10 and argues that Mardirossian, Selvester, Castelaz fail to teach "interpreting the physiological data based on a predetermined set of criteria to generate an interpretation" or "interpretation module to generate an interpretation of the physiological data". In response, it is respectfully submitted that every claimed features of dependent claims 1, 10 including the interpreting step/ module are disclosed/suggested by the references as set forth in the above rejections of claims 1, 10. Mardirossion and Castelaz particularly teach the interpreting of physiological signal based on a predetermined set of criteria to generate an interpretation using neural network (a form of interpretation module) as discussed above.

On pages 11, 12 of the Remarks, Applicant argues the independent claim 25 on the same basis; Applicant further argues that the dependent claims are all allowable accordingly. In response, it is respectfully submitted that the interpreting step/ module is disclosed by Mardirossian and Castelaz as clearly set forth in the above rejections of claims 1, 10 and 25. As such, the rejections of independent claims 1, 10, 25 and their independent claims are proper and should be maintained. 25

Conclusion

8.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. "Analysis Patient Care System" (2005/0182309); "Medical Testing Telemetry System" (2004/0106875); "Automated Patient Communication System" (2005/0171411), "Signal Interpretation Engine" (2003/01459678).

9.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kim T. Bui whose telephone number is 571-272-6768. The examiner can normally be reached on Monday-Friday from 8:30A.M. to 5:00P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Thomas can be reached on 571-272-6776. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 3626

KTB

11/04/05.

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